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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,770	09/20/2006	Frank Loeker	5003073.071US1	2986

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SMITH MOORE LEATHERWOOD LLP
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GREENSBORO, NC 27420

EXAMINER

DOLLINGER, MICHAEL M

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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06/15/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/565,770	Applicant(s) LOEKER ET AL.	
	Examiner MIKE DOLLINGER	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-10,18-20,23,24 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-10,18-20,23,24 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants Response to Double Patenting Rejection

1. Applicants request that the double patenting rejection be held in abeyance until allowable subject matter is identified. Only objections or requirements to form not necessary to further consideration of the claims; rejections, including double patenting rejections, cannot be held in abeyance, see 37 CFR 1.111 and MPEP 714.02 [R-3]. Applicants' request will be considered an admission that the double patenting rejection is proper and that Applicants will file a terminal disclaimer upon the identification of allowable subject matter.
2. If Applicants do not wish to admit that the double patenting rejection is proper, they must argue the merits of the rejection in the response to this office action. Failing to submit such arguments will be considered an admission that the double patenting rejection is proper and an intention to file a terminal disclaimer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-6, 8-10, 18-20, 23, 24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukaida et al (EP 0 612 533 A1 or US 5,672,419) in view of Sun et al (US 6,124,391). All references to Mukaida et al refer to EP 0 612 533 A1.
4. Mukaida et al disclose a water absorbent composition comprising (A) 100 parts by weight of water absorbing polymer particles [abstract], (B) 0.5 to 30 part of a resin of a resin powder having heat adhesion property [abstract], and 10 weight % or less of an organic or inorganic powder [6:44-49]. The size of the water absorbing polymer particles (A) is 0.1mm to 0.9mm [3:53-55] and the polymer may be a crosslinked or self-crosslinked polyacrylic acid salt [3:34]. The water absorbing polymer whose surface is further cross linked by crosslinkers (secondary crosslinking) may be used [3:44-46]. The resin powder (B) may be a polyester type resin as well as other condensation type polymers [4:3-7].
- Mukaida et al also disclose the above composition adhered to a fibrous material [abstract] such as cellulose-type fibers and organic synthetic type fibers [4:48-49] which reads on a composite comprising a powder water absorbing polymer. The

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water absorbing material is useful for water absorptive goods such as disposable diapers and sanitary napkins [abstract] which read on a chemical product.

5. Mukaida et al do not disclose the particle size of the organic or inorganic powders added to the composition. Mukaida et al do disclose preferable inorganic powders as zeolite, silica, alumina, bentonite and activated carbon, etc. [6:45-46].

6. Sun et al disclose a mixture of superabsorbent polymer (SAP) particles and inorganic powder [4:47-48]. The SAP particles are polymerized from acrylic acid or methacrylic acid salts [5:3-10]. The fine inorganic powder may comprise any of the claims including hydrated aluminum silicates [7:10-12]. The average size of the particles of the inorganic powder is preferably less than about 5 μm [7:17-18]. Sun et al teach that the admixture of these inorganic fine particles provides anti-caking characteristics to the SAP particles [1:7-11].

7. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have prepared a powdery water absorbing polymer from a fine particle with a particle size of less than 200 μm , an adhesive thermoplastic and a water absorbing polymer particle because Mukaida et al teach that it is within the skill of the art to prepare a powdery water absorbing polymer from a fine particle, an adhesive thermoplastic and a water absorbing polymer particle and Sun et al teach that it is within the skill of the art to admix an SAP particle with a inorganic fine particle with an average particle size of 5 μm or less. One would have been motivated to use the inorganic fine particle of Sun et al in the composition of Mukaida et al to receive the expected benefit of anti-

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caking characteristics. Absent any evidence to the contrary, there would have been a reasonable expectation of success in using an inorganic fine powder with an average particle size of less than 200µm as the inorganic powder of Mukaida et al.

8. Regarding claim 10, Mukaida et al also do not disclose particular crosslinking agents suitable for the surface crosslinking reaction.

9. Sun et al, discussed above, disclose SAP particles with the same polymer composition as Mukaida et al and also disclose suitable surface crosslinking agents including organic compounds such as a diol, a diamine, a diepoxide or an alkylene carbonate [6:21-25].

10. Selection of a known material based on its suitability for its intended use is *prima facie* obvious, see *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used an organic compound as a surface crosslinking agent with a polyacrylic acid water absorbing polymer particle composition because Mukaida et al teach that it is within the skill of the art to surface crosslink a polyacrylic acid water absorbing polymer particle with a crosslinking agents and Sun et al teach that it is within the ordinary skill of the art to utilize a diol, a diamine, a diepoxide or an alkylene carbonate as a surface crosslinking agent for SAP particles prepared from a polyacrylic acid. Absent any evidence to the contrary, there would have been a reasonable expectation of success in utilizing an organic surface crosslinking agent for the water absorbing polymer particles for Mukaida et al.

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11. Regarding the limitations toward inherent properties in claims 1-4 and 11, all the compositional and structural limitations of the powdery water absorbing polymer and each of its components are disclosed in Mukaida et al in view of Sun et al. Henceforth, all the claimed inherent properties of the materials must be present in the disclosed compositions and components. These properties are held to be inherently disclosed by Mukaida et al in view of Sun et al.

12. Regarding the limitations in claim 1, 18 and 28 requiring that the fine particle, thermoplastic adhesive, and water absorbing polymer particles are contacted during the production process of the water-absorbing particles or during secondary crosslinking are product-by-process limitations. The methods by which claimed composition are created by are not pertinent, unless applicant can show a different product is produced.

13. **Regarding the new limitations in claims 1 and 18 requiring 0.001 to less than 0.3 percent by weight of the polymer of a thermoplastic adhesive,** a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). The ordinarily skilled artisan would have expected the disclosed amount of 0.5 parts of a resin of a resin powder having heat adhesion property per 100 parts of super absorbent polymer particles to have similar properties to the same composition with 0.3 percent by weight of the thermoplastic adhesives. In the absence of any unexpectedly different properties in the claimed invention due to the lower

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amount of thermoplastic adhesive, it would have been obvious to prepare the composition of modified Mukaida with slightly less thermoplastic adhesive.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-6, 8-10, 18-20, 23, 24, 26 and 27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 11 and 24 of U.S. Patent No. 7,173,086 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because they have substantially overlapping subject matter. The patent claims superabsorbent polymer compositions comprising a superabsorbent polymer consisting essentially of a) from about 55 to about 99.9 wt% of polymerizable unsaturated acid group containing monomers, b) 0.001 to about 0.001 to about

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5.0% by weight of internal crosslinking agents, c) 0.001 to about 5.0% by weight of surface crosslinking agent, g) from about 0.01 to about 5% by weight of an insoluble inorganic powder and h) from about 0.01 to 0.5% by weight of a thermoplastic polymer [claim 1].

15. The instant claims are obvious variants of the patent claims, as evidenced by the specification of the patent: In the examples, Smith discloses superabsorbent polymer particles having a particle size of 150-850 microns [column 15 lines 45-49] that are prepared from a) acrylic acid [column 15 line 26] and c) an alkylene carbonate surface crosslinking agent [column 5 lines 27-34]. The inorganic particle g) is a fumed silica (AEROSIL 200) [column 15 lines 60-62] included in an amount of 0.4 % by weight [Table 2]. The thermoplastic polymer h) is preferably a polyester adhesive [Table 2 Examples 7-10] included in an amount of 0.15 or 0.3 % by weight [Table 2 Examples 7-10]. The polymers according to Smith can be employed in many products including sanitary towels, diapers or in wound coverings [column 9 lines 26-30] which read on a composite and a chemical product comprising the polymer particles. The inorganic particles g) preferably have a particle size of 100µm or less [column 6 lines 57-59].

16. Regarding the limitations toward inherent properties in claims 1-4 and 11, all the compositional and structural limitations of the powdery water absorbing polymer and each of its components are disclosed in Smith. Henceforth, all the claimed inherent properties of the materials must be present in the disclosed compositions and components. These properties are held to be inherently disclosed by Smith.

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17. Regarding the limitations in claim 1, 18 and 28 requiring that the fine particle, thermoplastic adhesive, and water absorbing polymer particles are contacted during the production process of the water-absorbing particles or during secondary crosslinking are product-by-process limitations. The methods by which claimed composition are created by are not pertinent, unless applicant can show a different product is produced.

18. “[T]hose portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent.” *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).

Response to Arguments

19. Applicant's arguments filed 05/03/2010 with respect to Mukaido in view of Sun have been fully considered but they are not persuasive.

20. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Contact Information

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MIKE DOLLINGER whose telephone number is (571)270-5464. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/mmd/

/RANDY GULAKOWSKI/
Supervisory Patent Examiner, Art Unit 1796